



(51) International Patent Classification:
H04W 52/02 (2009.01)

(21) International Application Number:
PCT/US2018/063320

(22) International Filing Date:
30 November 2018 (30.11.2018)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
62/593,631 01 December 2017 (01.12.2017) US

(71) Applicant: **INTERDIGITAL PATENT HOLDINGS, INC.** [US/US]; 200 Bellevue Parkway, Suite 300, Wilmington, Delaware 19809 (US).

(72) Inventors: **HAQUE, Tanbir**; 2 Huntington Quadrangle, 4th Floor, South Wing, Melville, New York 11747-4508 (US). **PRAGADA, Ravikumar V.**; 1001 E. Hector Street, Suite 300, Conshohocken, Pennsylvania 19428 (US). **BALASUBRAMANIAN, Anantharaman**; 9276 Scranton Road, Suite 300, San Diego, California 92121-1787 (US). **DEMIR, Alpaslan**; 2 Huntington Quadrangle, 4th Floor, South Wing, Melville, New York 11747-4508 (US).

(74) Agent: **KELLNER, Steven M.**; Volpe and Koenig, P.C., 30 S. 17th Street, United Plaza, Suite 1800, Philadelphia, Pennsylvania 19103 (US).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP,

(54) Title: NETWORK INITIATED ON-DEMAND ZERO-ENERGY PAGING METHOD AND APPARATUS

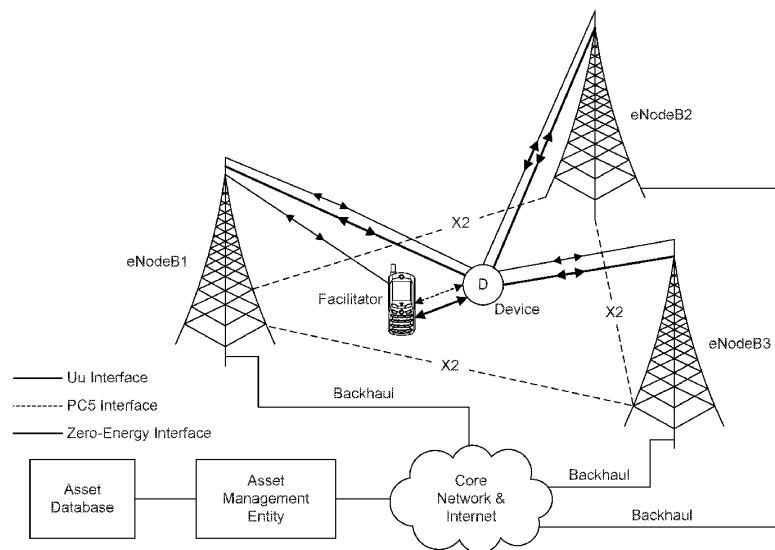


FIG. 39

(57) Abstract: A wireless transmit/receive unit (WTRU) may include one or more antennas and a first transceiver operatively coupled to the antennas. The one or more antennas and the first transceiver may be configured to receive a first signal from a network using zero energy from the WTRU. The one or more antennas and the first transceiver may be further configured to extract energy from the first signal. The first transceiver may be further configured to examine a separation between energy threshold events to decode an energy signature of the first signal. The first transceiver may be further configured to activate a second transceiver operatively coupled to the one or more antennas if the decoded energy signature matches a stored energy signature, wherein the second transceiver is powered by the WTRU. The one or more antennas and the second transceiver may be configured to receive a second signal from the network.

[Continued on next page]

KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*